

namely, lack of funds, I have been able to have but 168 volumes bound since the last report. These have been for the most part Williamson books, the work being paid for from the I. V. Williamson fund. Nearly all our exchanges and accumulated pamphlets remain unbound, thereby not only exposing the Library to loss, but causing serious inconvenience to readers and students. A liberal appropriation for binding, therefore, is one of our immediate and pressing needs. It will be seen by the accompanying list of journals and periodicals received, that our exchanges have been kept up and increased. The applications made for deficiencies last year have been productive of their full result, and the gaps still existing will probably have to be supplied by purchase.

The shelf list begun last year has been carried forward as rapidly as my other duties would permit. Four or five sections of the Library yet remain to be included, but even in its incomplete condition the catalogue has proved useful in locating accessions, detecting displacements and facilitating reference to the shelves.

All of which is respectfully submitted.

EDW. J. NOLAN,

Librarian.

REPORT OF THE CURATORS.

The Curators present the following statement of the Curator-in-Charge, as their report for the year 1886 :—

The Curator-in-Charge respectfully reports that during the past year the work of arranging, classifying and preserving the collections of the Academy has made considerable progress, for which, as heretofore, the institution is largely indebted to volunteer labor. The special thanks of the Academy are due to Mr. George W. Tryon, Jr., Conservator of the Conchological Collections, to Mr. John H. Redfield, Curator of the Herbarium, and to Mr. Jacob Binder, Curator of the Collection of Minerals covered by the Wm. S. Vaux Trust, for their disinterested labors in their several departments. To the Entomological Section, likewise, acknowledgment is due for work done in connection with the caring of the collection of insects.

In the departments other than those here indicated, the work has

been done under the immediate superintendence of the Curator-in-Charge and his assistant. Almost the entire collection of recent Invertebrata contained in the Museum—barring the Mollusca—has been re-arranged and re-classified, and the different groups have been so placed as to follow one another serially according to their position in the natural scale. The very extensive series of crabs, which have heretofore occupied the window spaces on the first gallery, filling some twenty-four cases, have been intercalated with the general collection of Invertebrata on the top floor, where they occupy practically the entire western wall. A re-arrangement of the Carcinological groups, following Gerstaecker, has been effected. By this shifting of the collections, the first gallery will be relegated exclusively to ornithology, the vacated window cases having been removed to the main floor to relieve the crowded condition of the geological and paleontological collections. Despite this large accession of table cases, and the addition of an equal number from other parts of the hall, the collections of Invertebrate Paleontology will barely find accommodation. Roughly estimated the fossils of the different geological formations fill some 20,000–22,000 trays, and in point of individual numbers probably do not fall short of 75,000–80,000 specimens, or about one-half the number that is registered in the department of recent conchology. The work of arranging the American series of fossils is now practically complete, and considerably over three-quarters of the collection is permanently labeled. The re-labeling of the entire series of fossils collected by the late Wm. M. Gabb in Santo Domingo and California has been effected during the year, and much has been done toward re-determining the type fossils of the first New York survey, collected by Mr. T. A. Conrad. The largest and most important accession to this department is a collection of fossils from the Miocene and Pliocene formations of the State of Florida, collected in the early part of the year by the Curator-in-Charge, to whom leave of absence had been granted by the Academy for the purpose of prosecuting researches and collecting, in conjunction with the Wagner Free Institute of Science. This collection, together with an extensive series of invertebrates dredged in the Gulf of Mexico and in the inland waters of the State, have not yet been placed in the Museum proper, but are temporarily deposited in a side room, where the specimens

may be conveniently studied and determined. This work is now accomplished in great part.

Some attention has been given during the year to the re-arranging of the collections of Vertebrata. The lizards have been removed from the south wall of the second gallery to the east wall, and the amphibians to the north wall, thereby placing the collection of reptiles in a continuous series. In the department of Ornithology, beyond a general oversight of the collections, no work has been accomplished. Some four or five *Dermestes*-eaten specimens, which had apparently not been properly cured, have been permanently removed from the cases, being no longer fit for exhibition. Barring such sporadic cases of destruction the collection is in a fairly good condition; nevertheless, it is absolutely necessary that an early examination of all the specimens be made by an expert taxidermist, and such steps be taken as will insure the collection from further loss.

Work in the department of Vertebrate Paleontology has been almost exclusively restricted to the collections of mammals and fishes; both of these have been entirely re-arranged, and are now much more accessible than they have been heretofore. The large specimens of fossil reptiles from the Lias of England, the valuable gift of Dr. T. B. Wilson, which had been built up into cases on the main floor of the Museum, have been permanently placed on the wall surface of the vestibule, where they are displayed to good advantage. It is designed to cover the remainder of the wall-space with two large maps, respectively illustrative of the geology of the national domain and of the zoogeographical regions of the earth's surface. The undersigned has charged himself with the preparation of this work.

The collection of alcoholics is in good condition, the entire series having been overhauled as in previous years. Considerable alteration has been made in the disposition of the cases throughout the Museum hall, and much floor space has been gained thereby; but such gains are far from sufficient to satisfy the wants of the institution, the future usefulness of which will be largely impaired unless immediate aid toward the erection of an extension to the present building is afforded. It is well within the truth to say that the existing collections, if properly displayed, would completely fill a building of twice the dimensions of the present one. The large and very valuable collections of the

Pennsylvania Geological Survey, contained in upwards of 200 cases, still remain in the cellar, boxed, for want of exhibition space. The types of the greater number of the fossil plants described by Lesquereux in his Coal Flora of the United States, probably one of the most valuable collections of fossil plants in the world, have been added to this collection during the year, but, for similar reasons, still remain boxed. The report of the Professor of Ethnology and Archæology indicates that accessions to this department of the Academy's Museum could readily be had were proper exhibition space provided, but that under present conditions the same is impossible. In view of these facts the necessity for an extension to the Academy's building cannot be too strongly insisted upon.

Of equal importance to the future welfare of the institution is a fund designed for the purposes of zoogeographical exploration. As suggested in our last report, the interest derived from a principal fund of \$50,000 would fairly equip an annual expedition to any of the largely unexplored regions lying about our domain, such as Mexico, Central America, the Bahamas, Labrador, etc. Only through this method of research can it be hoped to bring in large accessions of new material to the working naturalist, and thereby place him in direct relation with the problems of nature. The success attending the Florida Expedition of the Wagner Free Institute of Science of this city, which was organized with the co-operation of the Academy in the winter of the present year, fully demonstrates the wisdom of such a plan of explorations, at the same time that it proves its ready feasibility and possible economic character.

Specimens have been loaned for study during the year to Profs. Whitfield and Britton, of New York, to Profs. Osborn and Scott, of Princeton, and to Messrs. Ridgeway and Vasey, of Washington, all of whom have rendered service to the institution in the determination and description of its specimens. The Academy has also profited through the studies of three Jessup Fund beneficiaries, who have at various times rendered service to the Curator-in-Charge; to these persons the Curator-in-Charge begs to tender his thanks.

Very respectfully,

ANGELO HEILPRIN,

Curator-in-Charge.